

Real Time Group

Real Time & Embedded Linux Solutions

Yocto Project

משך הקורס 24 שעות

לימוד ותרגול בשיטת Hands-On-Training

רח' רוז'נסקי 14 ראשון לציון טל. 077-7067057 / 050-3309318 פקס 077-5067058

www.rt-hr.co.il

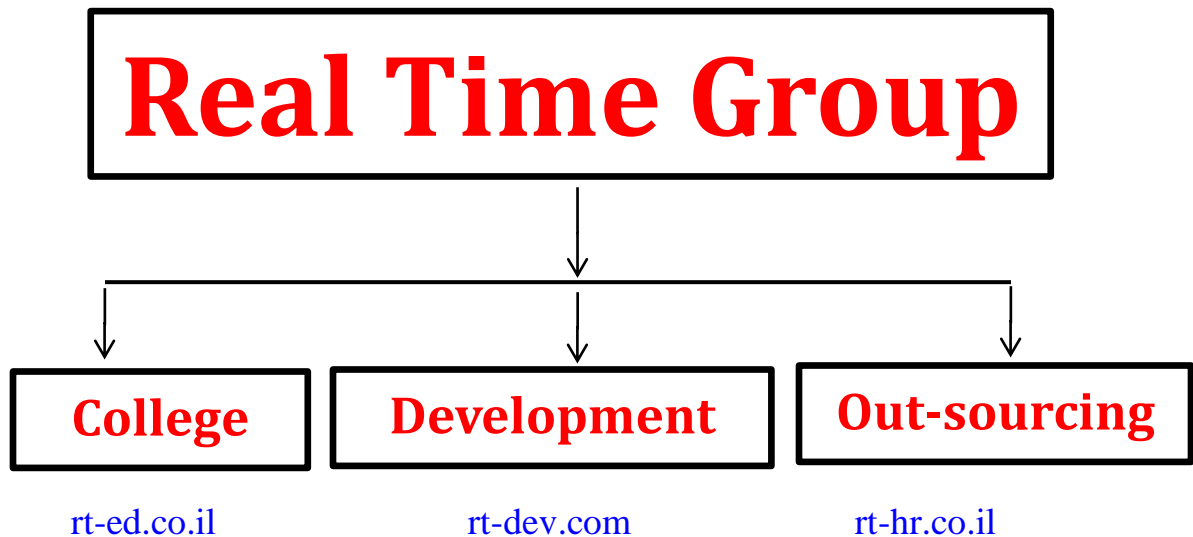
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Real Time Group is a multi-disciplinary dynamic and innovative Real-Time O.S. and Embedded Software Solutions Center, established in 2007.

Providing Bare-Metal and Embedded Linux solutions, professional services and consulting, end-to-end flexible system infrastructure, outsourcing, integration and training services for Hardware, Software and RT-OS \ Embedded Systems.

The company is divided into the following three Divisions:



Training Division:

Professional Training Services for Hardware, Software, RT-OS and Embedded systems industries.

We provide the knowledge and experience needed to enable professional engineers to Develop, Integrate and QA Hardware, Software and Networking Projects.

In order to insure experience, all courses are practical – hands-on-training. The latest Development, QA and Automation equipment which are adopted by the industry are used.

All students are supplied with Development-Boards for home-work and course projects.

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Course Overview:

The course aims to teach you everything you need to know on how to setup and run the Yocto Project tools, developing Embedded Linux-base projects with emphasis on practical implementation (using Evaluation boards).

The course starts by setting up and configuring the Yocto Project tools. It then explains the Hob interface for BitBake in detail.

Throughout the course We'll explore different directory layouts and learn to maximize the use of the Poky build system.

What You Will Learn

1. Understand the BitBake metadata syntax
2. Customize an application development environment
3. Debug your application in a cross-compiled environment
4. Add and remove features in the Linux kernel configuration
5. Optimize Yocto Project's capabilities to develop captivating embedded Linux projects
6. Facilitates efficient system development by helping you avoid known pitfalls
7. Demonstrates concepts in a practical and easy-to-understand way

Who should attend:

- Linux C programmers who need to program on Embedded Linux operating systems.
- Embedded Linux Developers.

Prerequisite:

- Knowledge of Linux administration (Linux Fundamentals) and Linux system programming .
- Knowledge in C programming language.

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Yocto Project (3 days - 24 AH)

1. Getting Started with the Yocto Project
 - a. Introducing the Yocto Project
 - b. Getting Set Up
 - c. Building Images
 - d. The Yocto Project Development Environment
 - e. Auto-builders .

2. Common Development Models
 - a. System Development Workflow
 - b. Developing a Board Support Package (BSP)
 - c. Modifying the Kernel
 - d. Application Development Workflow
 - e. Image Development Using Hob
 - f. Using a Development Shell
 - g. Prioritizing Your Layer

Lab : download the Yocto project sources, and Develop a Board Support Package .

Lab : Developing the different Layer and downloading to the EVB .

3. Customizing Images
 - a. Organization of the Yocto Project source tree.
 - b. Customizing an image.
 - c. Building an image.

Labs: download the Yocto project sources, compile an image and flash the development board .

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4. Recipes and layers details:
 - a. Understanding Recipe Syntax
 - b. Writing a New Recipe
 - c. Development workflow in the Yocto Project with BitBake.
 - d. Adding packages to the generated image.
 - e. The Yocto Project layers.
 - f. Adding a new layer

Labs: add a custom application and its recipe to the build system, create a new layer.

5. Running a Build on the Recipe
 - a. Fetching Code
 - b. Unpacking Code
 - c. Patching Code
 - d. Configuring the Recipe
 - e. Compilation

Labs: Using Recipes.

6. Configuring the Kernel
 - a. Using menuconfig and friends
 - b. Fine-Tuning the Kernel Configuration File
 - c. Patching the Kernel
 - d. Finding the Kernel Source Code
 - e. Set Up for the Build
 - f. Build the Modified Kernel Image

Labs: integrate kernel changes into the build system, create a custom image, and experiment with the SDK.

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הערות :

- ✓ פתיחת המסלול מותנה במספר נרשמים.
- ✓ המכללה מביאה ידעתם של המשתתפים שיתכנו שינויים בתוכן הקורסים ובמועדם.
- ✓ המכללה מתחייבת להודיע המשתתפים על כל שינוי.
- ✓ המכללה שומרת לעצמה את הזכות לשנות את תכני המסלול בהתאם לשיקול דעתה הבלעדית.

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